



OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING  
WASHINGTON 25, D. C.

17 March 1961

Dear Dr. Lederberg:

I have at hand your letter of 24 January to Dr. Wiesner, which was referred over to this office for further comment.

As you indicate in your letter, the process by which developments in military technology are converted into gains in the civilian sector is going on continuously. Indeed, a great deal of our military technology is directly applicable. For example, the heavy earth-moving equipments developed by the Corps of Engineers, the technology for processing titanium into shapes, the large transport aircraft developed by the Air Force -- these are all directly accepted into commercial practice.

Mechanisms by which this process takes place include the ready granting of patents to government employees for non-government use of their inventions, the alertness of defense industries to extend military-developed practices and designs into commercial areas, and the watchfulness of commercial interests over the granting of new patents. A comparatively small number of patents are withheld from publication for security reasons; it is not our understanding that this is a matter of great significance.

We have noticed that from time to time opportunities for commercial development are not followed up as quickly as we would have supposed. The reason generally turns out to be that a considerable further investment is required for process development, elimination of processing variables, pilot planting, or building of heavy equipment. This is, of course, very expensive and speculative.

As a matter of broad public interest, it might be reasonable for the government to underwrite or sponsor speculative development of this nature. There is indeed an opportunity to select out promising and seminal lines of development, in which cost and time considerations deter private sponsorship, and to undertake government support of these. But I do not believe it appropriate for the Department of Defense to undertake this. The technical and management problems we face are large enough indeed, without adding the responsibility for converting military technology to civilian applications.

There are a few ways in which, entirely as a part of our military programs, we are able to help nonmilitary development. For example, military technology is made generally available to industry through our system of technical evaluation centers, notably the ones at Battelle (Defense Metals Information Center) and Picatinny Arsenal (Plastics Technical Evaluation Center). Our military Standards and specifications are also generally available. Exchange of technical personnel goes on all the time.

→ As evidence of the acceptance of military technology into commercial application, you might be interested to examine the two-volume study, Defense Spending and the U.S. Economy, which deals directly and precisely with the very problem you raise. This study was prepared by the Operations Research Office, Johns Hopkins University, under contract with the Department of the Army, and was issued in 1958. It contains hundreds of examples of ways in which military research and development have benefited the civilian economy. In fact, this was the first and principal finding of the study.

I trust you will excuse the length of this reply. It is an interesting subject and one that merits serious thought.

Sincerely yours,



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for Arms Control

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cc: Dr. J.B.Wiesner